



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Frank O'Bannon  
Governor

Lori F. Kaplan  
Commissioner

July 8, 2003

100 North Senate Avenue  
P. O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
[www.IN.gov/idem](http://www.IN.gov/idem)

TO: Interested Parties / Applicant

RE: DiamlerChrysler Corporation - KokomoTransmission Plant  
#067-16788-00065

FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

## Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for consideration at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

(over)

FNTVPMOD.wpd 8/21/02

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency  
Administrator, Christine Todd Whitman  
401 M Street  
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

FNTVPMOD..wpd 8/21/02



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July 08, 2003

Mr. James Reed Jr.  
DaimlerChrysler Corporation - Kokomo Transmission Plant  
2401 South Reed Road  
Kokomo, IN 46904

Re: **067-16788**  
**Second Significant Permit Modification to**  
**Part 70 No.: T 067-6504-00065**

Dear Mr. Reed

The DaimlerChrysler Corporation, Kokomo Transmission Plant, was issued a permit on September 1, 1999 for a transmission manufacturing source. A letter requesting changes to this permit was received on January 17, 2003. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of one hundred (100) additional wet machines using oil mist collectors for air pollution control, seven (7) atmosphere generators using a flare for air pollution control, and eleven (11) laser welders.

The changes in the Part 70 Operating Permit are documented in the Technical Support Document. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Patrick Brennan, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 ext. 21, or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original Signed by  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments  
PTB/MES

cc: File - Howard County  
U.S. EPA, Region V  
Howard County Health Department  
Air Compliance Section Inspector - Ryan Hillman  
Compliance Branch - Karen Nowak  
Administrative and Development  
Technical Support and Modeling - Michelle Boner



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## PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**DaimlerChrysler Corporation  
Kokomo Transmission Plant  
2401 South Reed Road  
Kokomo, Indiana 46904**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: 067-6504-00065	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: September 1, 1999  Expiration Date: September 1, 2004
1 <sup>st</sup> Administrative Amendment: 067-11399-00065 2 <sup>nd</sup> Administrative Amendment: 067-13661-00065 3 <sup>rd</sup> Administrative Amendment: 067-11981-00065 4 <sup>th</sup> Administrative Amendment: 067-11990-00065 5 <sup>th</sup> Administrative Amendment: 067-15176-00065 1 <sup>st</sup> Minor Source Modification: 067-11163-00065 2 <sup>nd</sup> Minor Source Modification: 067-11508-00065 3 <sup>rd</sup> Minor Source Modification: 067-14232-00065 1 <sup>st</sup> Significant Source Modification: 067-12243-00065 1 <sup>st</sup> Significant Permit Modification: 067-15918-00065 2 <sup>nd</sup> Significant Source Modification: 067-16686-00065	Issuance Date: November 9, 1999 Issuance Date: March 26, 2000 Issuance Date: April 27, 2000 Issuance Date: September 1, 2000 Issuance Date: March 15, 2001 Issuance Date: September 30, 1999 Issuance Date: December 8, 1999 Issuance Date: May 1, 2001 Issuance Date: January 4, 2001 Issuance Date: October 17, 2002 Issuance Date: Pending
Second Significant Permit Modification No. SPM 067-16788-00065	Conditions Affected: A.2, A.3, D.10, D.11, D.12, D.13, D.14 and D.15.
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:  July 8, 2003

## **TABLE OF CONTENTS**

### **D.10 FACILITY OPERATION CONDITIONS - Wet Machines**

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.10.1 Prevention of Significant Deterioration [326 IAC 2-2] [40 CFR 52.21]

D.10.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

D.10.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

#### **Compliance Determination Requirements**

D.10.4 Particulate Matter (PM)/Particulate Matter Less Than Ten Microns (PM10)

D.10.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

#### **Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]**

D.10.6 Visible Emissions Notations

D.10.7 Parametric Monitoring

#### **Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.10.8 Record Keeping Requirements and Reporting Requirements

### **D.11 FACILITY OPERATION CONDITIONS: Dynamometer Test Cells**

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.11.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

D.11.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

#### **Compliance Determination Requirements**

D.11.3 Carbon Monoxide (CO)

D.11.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

#### **Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]**

D.11.5 Parametric Monitoring

D.11.6 Catalytic Converter Inspections

D.11.7 Catalyst Replacement

#### **Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.11.8 Record Keeping Requirements

D.11.9 Reporting Requirements

### **D.12 FACILITY OPERATION CONDITIONS: Insignificant Activities**

#### **General Construction Conditions**

D.12.1 General Construction Conditions

#### **Effective Date of Permit**

D.12.2 Effective Date of Permit

D.12.3 Permit Requirements

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.12.4 Particulate Matter (PM) [326 IAC 6-1-2]

D.12.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

#### **D.13 FACILITY OPERATION CONDITIONS: Wet Machines**

##### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.13.1 PM/ PM<sub>10</sub> [326 IAC 2-2]
- D.13.2 Particulate Matter (PM) [326 IAC 6-1]
- D.13.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.13.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

##### **Compliance Determination Requirements**

- D.13.5 PM/PM<sub>10</sub> Control
- D.13.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

##### **Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]**

- D.13.7 Visible Emissions Notations
- D.13.8 Parametric Monitoring

##### **Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.13.9 Record Keeping Requirements

#### **D.14 FACILITY OPERATION CONDITIONS: Atmosphere Generators**

##### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.14.1 Carbon Monoxide (CO) [326 IAC 2-2]
- D.14.2 PM/ PM<sub>10</sub> [326 IAC 2-2]
- D.14.3 Particulate Matter (PM) [326 IAC 6-1]
- D.14.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

##### **Compliance Determination Requirements**

- D.14.5 CO Control

#### **D.15 FACILITY OPERATION CONDITIONS: Insignificant Activities**

##### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.14.1 Particulate Matter (PM) [326 IAC 6-1]

##### **Compliance Determination Requirements**

- D.14.2 PM/PM<sub>10</sub> Control

#### **Certification Form**

**Emergency/Deviation Occurrence Report**

**Natural Gas Fired Boiler Certification**

**Monthly Report Form**

**Quarterly Report Form**

**Quarterly Compliance Monitoring Report**

22. One hundred (100) wet machines, controlled by oil mist collectors. Each machine has a maximum air flow rate of 1,000 actual cubic feet per minute (acfm).
23. Seven (7) natural gas-fired atmosphere generators, with heat treat atmosphere from the atmosphere generators combusted by flaring as it exits the associated heat treat furnaces, each with a maximum heat input capacity of one (1) MMBtu per hour.

41. Tinning
42. WWTP Sulfuric Acid Storage
43. Ink usage, identified as ink, segment ID 1.
44. Floor cleaner, identified as MAINTFC, segment ID 1.
45. Multiple individual machining operations, identified as MACH, segment ID 1, consisting of an oil mist from cutting oil, synthetic grinding coolant, and drilling oil, using air washers (scrubbers), and dust collectors as control.
46. Activities or categories not previously identified with emissions less than or equal to insignificant thresholds:  

Machining operations consisting of one hundred and five (105) wet machines, identified as Wet Mach, and each machine with maximum air flow rate of 750 actual cubic feet per minute (acfm).
47. Eleven (11) laser welders, each controlled with a particulate control device with a flow rate of 700 actual cubic feet per minute (acfm).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).



## SECTION D.10

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

- (t) One hundred forty nine (149) wet machines, controlled by fifteen (15) oil mist collectors, each machine oil mist collector has a maximum air flow rate of 30,000 actual cubic feet per minute (acfm).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.10.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2 and 40 CFR 52.21]

The Particulate Matter (PM) and Particulate Matter Less Than Ten Microns (PM10) emissions from each of the fifteen (15) oil mist collectors which control the one hundred forty nine (149) wet machines shall be limited as follows:

Outlet Grain Loading grain per dry standard cubic foot (gr/dscf)	PM/PM10 Emissions Limit (pounds per hour)
0.03	0.05

Compliance with this Condition and Conditions D.10.4, D.10.6 and D.10.7 will make 326 IAC 2-2 and 40 CR 52.21 (PSD) not applicable and will also satisfy the requirements under 326 IAC 6-1 (Particulate Emissions Limitations for Nonattainment Areas).

#### D.10.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification which may increase the potential VOC emissions to 25 tons per year or more from the fluid application to the wet machines covered in this permit must be approved by the Office of Quality (OAQ) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.

#### D.10.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these wet machines and their control devices.

### Compliance Determination Requirements

#### D.10.4 Particulate Matter (PM)/Particulate Matter Less Than Ten Microns (PM10)

The oil mist collectors shall be in operation at all times when the wet machines are in operation.

#### D.10.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Compliance stack tests on four (4) representative oil mist collectors shall be made within 180 days after achieving maximum production rate, but no later than 365 days after receipt of this permit. The Permittee shall perform PM and PM10 testing. Testing shall be conducted using methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C- Performance Testing.

## **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

### **D.10.6 Visible Emissions Notations**

- (a) Daily visible emission notations of the mist collectors stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

### **D.10.7 Parametric Monitoring**

The Permittee shall record the total static pressure drop on the mist collectors used in conjunction with the wet machines, at least once weekly when any of the wet machines is in operation and when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop on the mist collectors shall be maintained within the range of 0.1 to 2.5 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and calibration checked at least once every six (6) months.

## **Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

### **D.10.8 Record Keeping Requirements and Reporting Requirements**

- (a) To document compliance with Condition D.10.6, the Permittee shall maintain records of the daily visible emission notations of the wet machines mist collectors stack exhausts.
- (b) To document compliance with Condition D.10.7, the Permittee shall maintain the following:
  - (1) Weekly records of the following operational parameters during normal operation when venting to the atmosphere:
    - (A) Differential static pressure drop between the inlet and outlet across the bag filters; and
  - (2) Documentation of all response steps implemented, per event .
  - (3) Operation and preventive maintenance logs, including work purchases orders, shall

be maintained.

- (4) Quality Assurance/Quality Control (QA/QC) procedures.
  - (5) Operator standard operating procedures (SOP).
  - (6) Manufacturer's specifications or its equivalent.
  - (7) Equipment "troubleshooting" contingency plan.
  - (8) Documentation of the dates vents are redirected.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of the Part 70 permit.

## SECTION D.11

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)] Dynamometer Test Cells

21. Two (2) dynamometer test cells for the testing of transmissions, identified as DYNA 8 and DYNA 9, each powered by a variety of reciprocating internal combustion engines, each engine being fueled by gasoline, each with a maximum heat capacity not to exceed 4.2 million British thermal units (MMBtu), and each exhausting through one (1) stack equipped with a catalytic converter for air pollution control.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.11.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

- (a) Emissions of carbon monoxide (CO) shall not exceed 95.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limit shall be enforced through a limitation on gasoline throughput per twelve (12) consecutive month period, a site specific CO emission factor, and operation of the catalytic converters. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.2 not applicable.
- (b) Gasoline throughput shall not exceed 190,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limit is based on an applicant submitted CO emission factor of 5.3 pounds per gallon of gasoline before controls (from previous stack tests), and a control efficiency of 81.2%, which results in a CO emission factor after controls of 1.0 pounds per gallon of gasoline combusted.
- (c) The results of testing required in Condition D.11.4 shall be used to confirm the after controls emission factor of 1.0 pounds of CO per gallon of gasoline combusted. If testing indicates a different emission factor, gasoline usage shall be adjusted to limit CO emissions to 95.0 tons per twelve (12) consecutive month period, as follows:

$$\text{Gasoline throughput (gallons/year)} = \frac{95.0 \text{ tons of CO per year}}{\text{lbs of CO per gallon of gasoline} \times 1 \text{ ton/2000 lbs}}$$

- (d) Any change or modification of the two (2) dynamometer test cells that would increase the potential to emit of CO to more than 100 tons per year, shall obtain approval from the Office of Air Quality (OAQ), as required by 326 IAC 2-1, before such change can occur.

#### D.11.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

### Compliance Determination Requirements

#### D.11.3 Carbon Monoxide (CO)

In order to assure compliance with Condition D.11.1, the catalytic converter for each of the two (2) dynamometer test cells shall operate at all times that each test cell is in operation. When

operating, the catalytic converters shall maintain operating temperatures in the range of 1,200 to 1,400 °F at all times except during startup.

#### **D.11.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

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Within one hundred and eighty (180) days after initial startup, the Permittee shall conduct a performance test on one of the dynamometers to verify the after controls CO emission factor utilized in Condition D.11.1 (b) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### **D.11.5 Parametric Monitoring**

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The Permittee shall record the operating temperature of each catalytic converter at least once per shift when each of the two (2) dynamometer test cells are in operation. These readings shall not be taken during startup. When for any one reading, the operating temperature of the catalytic converter is outside the normal range of 1,100 to 1,400 °F, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A temperature reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

#### **D.11.6 Catalytic Converter Inspections**

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An inspection shall be performed each calendar quarter of the exterior of the catalytic converters and their connections to the dynamometer cells, looking for signs of physical damage, including corrosion. Any required maintenance indicated by the inspection shall be performed.

#### **D.11.7 Catalyst Replacement**

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The catalysts used in the catalytic converters shall be replaced on an annual basis. The initial replacements shall occur no later than 30 days after the anniversary of the initial startup dates of the catalytic converters. Subsequent replacements shall occur no later than 30 days after the anniversary of the installation of the previous catalyst.

### **Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### **D.11.8 Record Keeping Requirements**

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- (a) To document compliance with Condition D.11.1, the Permittee shall maintain monthly and twelve (12) consecutive monthly records of fuel input to the two (2) dynamometer test cells.
- (b) To document compliance with Condition D.11.5, the Permittee shall maintain once per shift records of the operating temperature of the catalytic converters.
- (c) To document compliance with Condition D.11.6, the Permittee shall maintain a log of the quarterly catalytic converter inspections.
- (d) To document compliance with Condition D.11.7, the Permittee shall maintain a log of the dates of the annual catalyst replacements.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.11.9 Reporting Requirements

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A quarterly summary of the information to document compliance with Condition D.11.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

**SECTION D.12****FACILITY OPERATION CONDITIONS****Facility Description [326 IAC 2-7-5(15)]:**

Activities or categories not previously identified with emissions less than or equal to insignificant thresholds:

Machining operations consisting of one hundred and five (105) wet machines, identified as Wet Mach, and each machine with maximum air flow rate of 750 actual cubic feet per minute (acfm).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-7-10.5, WITH CONDITIONS LISTED BELOW.

**Construction Conditions****General Construction Conditions**

D.12.1 This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**Effective Date of the Permit**

D.12.2 Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.12.3 All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

**Operation Conditions****Emission Limitations and Standards [326 IAC 2-7-5(1)]****D.12.4 Particulate Matter (PM) [326 IAC 6-1-2]**

Pursuant to 326 IAC 6-1-2 (Particulate Emission Limitations), each wet machine shall not allow or permit discharge to the atmosphere particulate matter in excess of 0.03 grains per dry standard cubic foot (gr/dscf).

**D.12.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]**

Any change or modification which may increase the potential VOC emissions to 25 tons per year or more from the fluid application to the wet machines covered in this permit must be approved by the Office of Air Quality (OAQ) and be subject to 326 IAC 8-1-6 (General Reduction Requirements) before such change may occur.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

There are no Compliance Monitoring Requirements applicable to this emission unit.

## SECTION D.13

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Wet Machines

22. One hundred (100) wet machines, controlled by oil mist collectors. Each machine has a maximum air flow rate of 1,000 actual cubic feet per minute (acfm).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.13.1 PM/ PM<sub>10</sub> [326 IAC 2-2]

- (a) PM emissions from the one hundred (100) wet machines shall not exceed a total of 5.02 pounds per hour, equivalent to 22.0 tons per year.
- (b) PM<sub>10</sub> emissions from the one hundred (100) wet machines shall not exceed a total of 2.74 pounds per hour, equivalent to 12.0 tons per year.
- (c) Compliance with the above limits, along with the PM and PM<sub>10</sub> limits in Condition 14.2, and the emissions from insignificant activities in Section D.15, will ensure that total PM and PM<sub>10</sub> emissions from Significant Source Modification 067-16686-00065 are less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

#### D.13.2 Particulate Matter (PM) [326 IAC 6-1]

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the one hundred (100) wet machines shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

#### D.13.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification which may increase VOC emissions to 25 tons per year or more from the one hundred (100) wet machines shall require prior approval of the Office of Air Quality and be subject to the requirements of 326 IAC 8-1-6 (General Reduction Requirements) before any such change may occur.

#### D.13.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### Compliance Determination Requirements

#### D.13.5 PM/PM<sub>10</sub> Control

The oil mist collectors for particulate control shall be in operation and control emissions from the one hundred (100) wet machines at all times that the one hundred (100) wet machines are in operation.

#### D.13.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within one hundred and eighty (180) days after achieving maximum production rate, but not later than three hundred and sixty five days (365) days after receipt of this permit, the Permittee shall conduct a performance test on four (4) representative oil mist collectors to verify compliance with Condition D.13.1, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.



## **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

### **D.13.7 Visible Emissions Notations**

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- (a) Daily visible emission notations of the oil mist collector stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

### **D.13.8 Parametric Monitoring**

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The Permittee shall record the total static pressure drop across the oil mist collectors used in conjunction with the one hundred (100) wet machines, at least once weekly when the wet machines are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the oil mist collector is outside the normal range of 0.1 and 2.5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

## **Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

### **D.13.9 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.13.1 and D.13.2, the Permittee shall maintain records of all stack tests.
- (b) To document compliance with Condition D.13.7, the Permittee shall maintain the following:
  - (1) Records of daily visible emission notations of the oil mist collector stack exhausts.
  - (2) Records indicating which oil mist collectors are connected to the one hundred (100) wet machines on each day that visible emissions notations are taken.
- (c) To document compliance with Condition D.13.8, the Permittee shall maintain weekly records of the total static pressure drop during normal operation when venting to the atmosphere.

- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit. Requirements, of this permit.

## SECTION D.14

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Atmosphere Generators

23. Seven (7) natural gas-fired atmosphere generators, with heat treat atmosphere from the atmosphere generators combusted by flaring as it exits the associated heat treat furnaces, each with a maximum heat input capacity of one (1) MMBtu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.14.1 Carbon Monoxide (CO) [326 IAC 2-2]

The CO emissions from the seven (7) atmosphere generators shall not exceed a total of 1.79 pounds per hour per unit, equivalent to 55.0 tons per year. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

#### D.14.2 PM/ PM<sub>10</sub> [326 IAC 2-2]

- (a) PM and PM<sub>10</sub> emissions from the seven (7) atmosphere generators shall each not exceed a total of 0.12 pounds per hour, equivalent to 0.53 tons per year.
- (b) Compliance with the above limit, along with the PM and PM<sub>10</sub> limits in Condition 13.1, and the emissions from insignificant activities in Section D.15, will ensure that total PM and PM<sub>10</sub> emissions from Significant Source Modification 067-16686-00065 remain less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

#### D.14.3 Particulate Matter (PM) [326 IAC 6-1]

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the seven (7) atmosphere generators shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

#### D.14.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

### Compliance Determination Requirements

#### D.14.5 CO Control

The flare for CO control shall be in operation and control emissions from the seven (7) atmosphere generators at all times that the seven (7) atmosphere generators are in operation.

## SECTION D.15

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

47. Eleven (11) laser welders, each controlled with a particulate control device with a flow rate of 700 actual cubic feet per minute (acfm).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.15.1 Particulate Matter (PM) [326 IAC 6-1]

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the eleven (11) laser welders shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

### Compliance Determination Requirements

#### D.15.2 PM/PM<sub>10</sub> Control

The particulate control device for PM and PM<sub>10</sub> control shall be in operation and control emissions from the eleven (11) laser welders at all times that the eleven (11) laser welders are in operation.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## Office of Air Quality

### COMPLIANCE DATA SECTION

### Part 70 Quarterly Report

Source Name: DaimlerChrysler Corporation - Kokomo Transmission Plant  
 Source Address: 2401 South Reed Road, Kokomo, IN 46904  
 Mailing Address: P.O. Box 9007, Kokomo, IN 46904-9007  
 Permit No.: T 067-6504-00065  
 Facility: Two (2) dynamometer test cells  
 Parameter: Gasoline Throughput

Limit: The input of gasoline shall be limited such that CO emissions shall not exceed 95.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This limit shall be enforced as follows:

Gasoline throughput shall not exceed 190,000 gallons per twelve (12) consecutive month period.

This limit is based on an after controls emission factor of 1.0 pounds of CO per gallon of gasoline combusted. In the event that stack testing results in a revised after controls CO emission factor, the gasoline throughput limit shall be revised as follows:

$$\text{Gasoline throughput (gallons/year)} = \frac{95.0 \text{ tons of CO per year}}{\text{lbs of CO per gallon of gas} \times 1 \text{ ton}/2000 \text{ lbs}}$$

YEAR: \_\_\_\_\_

Month	Gasoline Usage	Gasoline Usage	Gasoline Usage
	This Month (gallons)	Previous 11 Months (gallons)	12 Month Total (gallons)
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modifications**

#### **Source Background and Description**

<b>Source Name:</b>	<b>Daimler Chrysler Corporation Kokomo Transmission Plant</b>
<b>Source Location:</b>	<b>2401 South Reed Road, Kokomo, Indiana 46904</b>
<b>County:</b>	<b>Howard</b>
<b>SIC Code:</b>	<b>3714</b>
<b>Operation Permit No.:</b>	<b>T 067-6504-00065</b>
<b>Operation Permit Issuance Date:</b>	<b>September 1, 1999</b>
<b>Significant Source Modification No.:</b>	<b>067-16686-00065</b>
<b>Significant Permit Modification No.:</b>	<b>067-16788-00065</b>
<b>Permit Reviewer:</b>	<b>Patrick Brennan/MES</b>

The Office of Air Quality (OAQ) has reviewed a modification application from the DaimlerChrysler Corporation, Kokomo Transmission Plant, relating to the construction and operation of the following emission units and pollution control devices:

- (a) One hundred (100) wet machines, controlled by oil mist collectors. Each machine has a maximum air flow rate of 1,000 actual cubic feet per minute (acfm).
- (b) Seven (7) natural gas-fired atmosphere generators, with heat treat atmosphere from the atmosphere generators combusted by flaring as it exits the associated heat treat furnaces, each with a maximum heat input capacity of one (1) MMBtu per hour.
- (c) Eleven (11) laser welders, each controlled with a particulate control device with a flow rate of 700 actual cubic feet per minute (acfm).

#### **History**

On January 17, 2003, the DaimlerChrysler Corporation, Kokomo Transmission Plant, submitted an application to the OAQ requesting to add additional wet machines, atmosphere generators and laser welders to their existing plant. The DaimlerChrysler Corporation, Kokomo Transmission Plant was issued a Part 70 permit on September 1, 1999.

#### **Source Definition**

The operation of machining, cleaning, and heat treating facilities to produce transmissions for use in automobiles and light duty trucks company consists of two (2) plants:

- (a) Plant 1 is the Kokomo Transmission Plant (KTP), located at 2401 S. Reed Road, Kokomo, IN 46904; and
- (b) Plant 2 is the Kokomo Casting Plant (KCP), located at 1001 East Boulevard, Kokomo, IN 46904.

During the Part 70 permitting process, it was determined that the two (2) plants should be treated as one (1) Title V source. Solely for administrative purposes, the plants were issued separate Part 70 permits. The DaimlerChrysler Kokomo Transmission Plant was permitted as Part 70 Permit No. T-067-6504-00065, and the DaimlerChrysler Kokomo Casting Plant was permitted as Part 70 Permit No. T-067-5246-00065. This modification is to the Kokomo Transmission Plant permit only.

### **Air Pollution Control Justification as an Integral Part of the Process**

The company has submitted the following justification such that the flares used to burn excess gases from the seven (7) atmosphere generators be considered as an integral part of the heat treat process. The flaring process meets two (2) of the three (3) IDEM criteria for controls to be considered integral to the process.

- (a) The process cannot operate without the control equipment. The seven (7) atmosphere generators create 375 pounds of excess CO per hour of operation. This creates the potential for an explosion. Therefore, the atmosphere generators cannot operate safely without the control devices.
- (b) The control equipment serves a primary purpose other than pollution control. Because of the potential for explosion created by the CO emissions, the flares are required to operate for safety reasons, regardless of the impact on air pollutant levels.

IDEM, OAQ has evaluated the justifications and agreed that the flares will be considered as an integral part of the heat treat process. The flares will operate at all times when the heat treat process is in operation.

The level of permitting for this modification is unaffected by this determination. This modification is a significant source modification based on PM<sub>10</sub> emissions from the one hundred (100) wet machines.

### **Enforcement Issue**

There are no enforcement actions pending.

### **Stack Summary**

There will be certain new stacks associated with this modification. The new wet machines will be connected to and controlled by both new and existing oil mist collectors. Because the machines are constantly being moved and reconfigured, the stack connected to a given wet machine changes with time. Condition D.13.9 requires the applicant to maintain records of which machines are connected to which stacks in order to perform the visual emissions monitoring required by Condition D.13.7.

### **Recommendation**

The staff recommends to the Commissioner that the Part 70 Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 17, 2003.

## Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A on pages 13 through 15 of 15 of this document.

## Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)			
	Wet Machines	Laser Welders	Atmosphere Generators	Total
PM	60.1	14.5	0.230	74.8
PM <sub>10</sub>	60.1	14.5	0.230	74.8
SO <sub>2</sub>	-	-	0.018	0.018
VOC	5.15	-	0.170	5.32
CO	-	-	55.0	55.0
NO <sub>x</sub>	-	-	3.07	3.07

HAPs	Potential To Emit (tons/year)
Formaldehyde	0.005
TOTAL	0.005

## Justification for Modification

The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4), because potential PM and PM<sub>10</sub> emissions exceed twenty-five (25) tons per year. The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification (SPM 067-16788-00065) in accordance with 326 IAC 2-7-12(d)(1). The Significant Permit Modification will give the source approval to operate the proposed emission unit.

## County Attainment Status

The source is located in Howard County.



Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Howard County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Howard County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

#### Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	greater than 250
PM <sub>10</sub>	greater than 250
SO <sub>2</sub>	greater than 250
VOC	greater than 250
CO	greater than 250
NO <sub>x</sub>	greater than 250

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon information contained in the Technical Support Document for the Part 70 permit for this source, T 067-6504-00065, issued on September 1, 1999.

### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
One Hundred (100) Wet Macnines	22.0	12.0	-	1.030	-	-
Seven (7) Atmosphere Generators	0.230	0.230	0.180	0.170	55.0	3.07
Laser Welders (Insignificant Activities)	1.45	1.45	-	-	-	-
Net Emissions	23.7	13.7	0.018	1.20	55.0	3.07
PSD Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

### Federal Rule Applicability

- (a) This significant permit modification does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1:
  - (1) with the potential to emit before controls equal to or greater than the major source threshold;
  - (2) that is subject to an emission limitation or standard; and
  - (3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable to this modification.

- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.

### State Rule Applicability - Individual Facilities

### 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

The existing source is a major PSD source. However, because potential emissions of all criteria pollutants, after controls, are below the PSD significant levels, the modification is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### 326 IAC 6-1 (Particulate Limitations)

- (a) Because the proposed modification is located in Howard County, 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations) is applicable. Pursuant to 326 IAC 6-1-2 (a), particulate emissions from the one hundred (100) wet machines, and the eleven (11) laser welders, shall not exceed 0.03 grains per dry standard cubic foot.

The grain loadings submitted by the applicant, shown on page 12 of 14 of this document, verify that these facilities will be in compliance with this rule.

- (b) Because the seven (7) natural gas-fired atmosphere generators are not fuel combustion steam generators, 326 IAC 6-1-2 (b) is not applicable.

### 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(1), if a limit is established by 326 IAC 6-1, then the limitation contained in 326 IAC 6-3 shall not apply. Therefore, since the one hundred (100) wet machines and the eleven (11) laser welders are subject to the requirements of 326 IAC 6-1-2 (a), the requirements of 326 IAC 6-3-2 are not applicable.

### 326 IAC 8-1-6 (New facilities; General Reduction Requirements)

Because the wet machines have VOC emissions and are covered by no other provisions of Article 8, 326 IAC 8-1-6 could be applicable. However, because uncontrolled potential VOC emissions from the one hundred (100) wet machines are less than 25 tons per year, 326 IAC 8-1-6 (Best Available Control Technology) is not applicable. Any change or modification which would increase VOC emissions to greater than 25 tons per year shall require prior approval from the Office of Air Quality.

## Stack Testing Requirements

Compliance stack tests on four (4) representative oil mist collectors shall be made within one hundred and eighty (180) days after achieving maximum production rate, but not later than three hundred and sixty five days (365) days after receipt of this permit. The Permittee shall conduct PM and PM<sub>10</sub> performance tests to verify the oil mist collector control utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Stack tests conducted on similar oil mist collectors already in existence at the source have used a modified US EPA Method 5. The modified Method 5 differs from the standard US EPA Method 5 in that the heated probe/filter temperature can be less than 68 degrees F. If stack gas conditions allow, this method may be used. A final determination will be reached between the source and the IDEM Compliance Data Section during the review and approval of the source sampling protocol.

### **Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to the one hundred (100) wet machines are specified below:

- (a) Daily visible emissions notations of the oil mist collector stacks shall be performed once per day during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
- (b) The Permittee shall record the total static pressure drop across the oil mist collectors controlling the one hundred (100) wet machines, at least once weekly when the wet machines are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the oil mist collectors shall be maintained within the range of 0.1 to 2.5 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain

troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the oil mist collectors for the wet machines must operate properly to ensure compliance with 326 IAC 6-1 (Particulate Limitations) and 326 IAC 2-2 (PSD).

### Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

1. The wet machines and atmosphere generators have been added to the equipment description in Section A.2 of the permit as follows:
  22. **One hundred (100) wet machines, controlled by oil mist collectors. Each machine has a maximum air flow rate of 1,000 actual cubic feet per minute (acfm).**
  23. **Seven (7) natural gas-fired atmosphere generators, with heat treat atmosphere from the atmosphere generators combusted by flaring as it exits the associated heat treat furnaces, each with a maximum heat input capacity of one (1) MMBtu per hour.**
2. The laser welders have been added to the list of insignificant activities in Section A.3 of the permit as follows:
  47. **Eleven (11) laser welders, each controlled with a particulate control device with a flow rate of 700 actual cubic feet per minute (acfm).**
3. Section D.13 has been added to the Part 70 permit as follows:

### SECTION D.13

### FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]: Wet Machines

22. **One hundred (100) wet machines, controlled by oil mist collectors. Each machine has a maximum air flow rate of 1,000 actual cubic feet per minute (acfm).**

**(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)**

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.13.1 PM/ PM<sub>10</sub> [326 IAC 2-2]

- (a) **PM emissions from the one hundred (100) wet machines shall not exceed a total of 5.02 pounds per hour, equivalent to 22.0 tons per year.**
- (b) **PM<sub>10</sub> emissions from the one hundred (100) wet machines shall not exceed a total of 2.74 pounds per hour, equivalent to 12.0 tons per year.**
- (c) **Compliance with the above limits, along with the PM and PM<sub>10</sub> limits in Condition 14.2, and the emissions from insignificant activities in Section D.15, will ensure than total**

**PM and PM<sub>10</sub> emissions from Significant Source Modification 067-16686-00065 are less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.**

**D.13.2 Particulate Matter (PM) [326 IAC 6-1]**

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the one hundred (100) wet machines shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

**D.13.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]**

Any change or modification which may increase VOC emissions to 25 tons per year or more from the one hundred (100) wet machines shall require prior approval of the Office of Air Quality and be subject to the requirements of 326 IAC 8-1-6 (General Reduction Requirements) before any such change may occur.

**D.13.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

**Compliance Determination Requirements**

**D.13.5 PM/PM<sub>10</sub> Control**

The oil mist collectors for particulate control shall be in operation and control emissions from the one hundred (100) wet machines at all times that the one hundred (100) wet machines are in operation.

**D.13.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

Within one hundred and eighty (180) days after achieving maximum production rate, but not later than three hundred and sixty five days (365) days after receipt of this permit, the Permittee shall conduct a performance test on four (4) representative oil mist collectors to verify compliance with Condition D.13.1, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**D.13.7 Visible Emissions Notations**

- (a) Daily visible emission notations of the oil mist collector stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

#### **D.13.8 Parametric Monitoring**

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The Permittee shall record the total static pressure drop across the oil mist collectors used in conjunction with the one hundred (100) wet machines, at least once weekly when the wet machines are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the oil mist collector is outside the normal range of 0.1 and 2.5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### **Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### **D.13.9 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.13.1 and D.13.2, the Permittee shall maintain records of all stack tests.
- (b) To document compliance with Condition D.13.7, the Permittee shall maintain the following:
  - (1) Records of daily visible emission notations of the oil mist collector stack exhausts.
  - (2) Records indicating which oil mist collectors are connected to the one hundred (100) wet machines on each day that visible emissions notations are taken.
- (c) To document compliance with Condition D.13.8, the Permittee shall maintain weekly records of the total static pressure drop during normal operation when venting to the atmosphere.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

4. Section D.14 has been added to the Part 70 permit as follows:

**SECTION D.14 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]: Atmosphere Generators**

23. Seven (7) natural gas-fired atmosphere generators, with heat treat atmosphere from the atmosphere generators combusted by flaring as it exits the associated heat treat furnaces, each with a maximum heat input capacity of one (1) MMBtu per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

**D.14.1 Carbon Monoxide (CO) [326 IAC 2-2]**

The CO emissions from the seven (7) atmosphere generators shall not exceed a total of 1.79 pounds per hour per unit, equivalent to 55.0 tons per year. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

**D.14.2 PM/ PM<sub>10</sub> [326 IAC 2-2]**

- (a) PM and PM<sub>10</sub> emissions from the seven (7) atmosphere generators shall each not exceed a total of 0.12 pounds per hour, equivalent to 0.53 tons per year.
- (b) Compliance with the above limit, along with the PM and PM<sub>10</sub> limits in Condition 13.1, and the emissions from insignificant activities in Section D.15, will ensure that total PM and PM<sub>10</sub> emissions from Significant Source Modification 067-16686-00065 remain less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

**D.14.3 Particulate Matter (PM) [326 IAC 6-1]**

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the seven (7) atmosphere generators shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

**D.14.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

**Compliance Determination Requirements**

**D.14.5 CO Control**

The flare for CO control shall be in operation and control emissions from the seven (7) atmosphere generators at all times that the seven (7) atmosphere generators are in operation.



5. Section D.15 has been added to the Part 70 permit as follows:

**SECTION D.15**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities**

47. Eleven (11) laser welders, each controlled with a particulate control device with a flow rate of 700 actual cubic feet per minute (acfm).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

**D.15.1 Particulate Matter (PM) [326 IAC 6-1]**

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the eleven (11) laser welders shall be limited to 0.03 grain per dry standard cubic foot of exhaust air.

**Compliance Determination Requirements**

**D.15.2 PM/PM<sub>10</sub> Control**

The particulate control device for PM and PM<sub>10</sub> control shall be in operation and control emissions from the eleven (11) laser welders at all times that the eleven (11) laser welders are in operation.

**Conclusion**

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 067-16686-00065, and Significant Permit Modification No. 067-16788-00065.

## Appendix A

### Summary of Applicant Submitted Emission Calculations

#### 1. Wet Machining Operations

The applicant plans to install 100 wet machining units. PM<sub>10</sub> and VOC emissions from these machines are generated as oil mist droplets from the cutting fluids used to lubricate the machining process. These units will all be enclosed, with emissions controlled by oil mist collectors.

The most recent stack tests from similar wet machines located at the source found maximum outlet grain loadings of 0.0014 gr/dscf. The applicant has made the conservative assumption that outlet grain loadings from the new machining units will be more than double that value, or 0.0032 gr/dscf.

Assuming a control efficiency of 80%, the inlet grain loading for each wet machine is assumed to be  $0.0032 \text{ gr/dscf} / (1.0 - 0.80) = 0.016 \text{ gr/dscf}$ . Assuming a flow rate of 1,000 dscf/minute, the PM<sub>10</sub> emissions before controls from each wet machine are:

$$\text{PM}_{10} = (0.016 \text{ gr/dscf}) \times (1000 \text{ dscf/min}) \times (60 \text{ min/hr}) \times (1.0 \text{ lb/7000 gr}) = 0.1371 \text{ lbs/hr/machine}$$

$$\begin{aligned} \text{Assuming 100 machines, PM}_{10} &= (0.1371 \text{ lb/hr/machine}) \times 100 \text{ machines} = 13.71 \text{ lbs/hr} \\ &= 60.1 \text{ tons/year} \end{aligned}$$

$$\begin{aligned} \text{Assuming 80\% control efficiency, PM}_{10} \text{ emissions after controls} &= 2.74 \text{ lbs/hr} \\ &= 12.01 \text{ tons/year} \end{aligned}$$

The worst case machining fluid used at the source has a maximum volatile content of 8.59% VOC. Accordingly, VOC emissions before controls are calculated as follows:

$$\text{VOC} = (0.1371 \text{ lbs/hr}) \times (0.0859 \text{ wt. percent VOC}) = 0.0118 \text{ lbs/hr/machine}$$

$$\begin{aligned} \text{Assuming 100 machines, VOC} &= (0.0118 \text{ lb/hr/machine}) \times 100 \text{ machines} = 1.18 \text{ lbs/hr} \\ &= 5.15 \text{ tons/year} \end{aligned}$$

$$\begin{aligned} \text{Assuming 80\% control efficiency, VOC emissions after controls} &= 0.236 \text{ lbs/hr} \\ &= 1.03 \text{ tons/year} \end{aligned}$$

#### 2. Laser Welders

The applicant is proposing to install eleven (11) laser welders. Each welder is equipped with a cartridge type dust collector with a control efficiency of 90%. The laser welders are defined as insignificant activities by 326 IAC 2-7-2 (21), but the emissions are quantified to determine the IDEM permitting level and PSD applicability.

The laser welders have an inlet grain loading of 0.05 gr/acfm, and a flow rate of 700 acfm. Emissions from the welders are calculated as follows:

$$\text{PM}_{10} = (0.05 \text{ gr/acf}) \times (700 \text{ acf/min}) \times (60 \text{ min/hr}) \times (1.0 \text{ lb/7000 gr}) = 0.30 \text{ lbs/hr/welder}$$

$$\begin{aligned} \text{Assuming 11 welders, PM}_{10} &= (0.30 \text{ lb/hr/welder}) \times 11 \text{ welders} = 3.30 \text{ lbs/hr} \\ &= 14.4 \text{ tons/year} \end{aligned}$$

$$\begin{aligned} \text{Assuming 90\% control efficiency, PM}_{10} \text{ emissions after controls} &= 0.33 \text{ lbs/hr} \\ &= 1.45 \text{ tons/year} \end{aligned}$$

### 3. Atmosphere Generators

The applicant is proposing to reconstruct seven (7) atmosphere generators, to be utilized as part of the heat treat process. Because these units are being reconstructed for a capacity increase they are being permitted as new units. The units consume natural gas in two ways: 1) natural gas is combusted to heat the catalyst bed, and 2) natural gas is passed through a catalyst bed and converted to heat treat atmosphere, also known as reaction gas.

The atmosphere generators will produce up to 6,000 cubic ft/hr of reaction gas, which is 20% CO, 40% N<sub>2</sub>, and 40% H<sub>2</sub>. Based upon stoichiometry, this results in 86 lb/hr of CO gas generated. A substantial portion of the CO is consumed in the heat treat furnace as it carburizes the metal parts. However, it is conservatively assumed that 99% of the reaction gas is vented from the furnace, and 98% of the CO in the reaction gas is consumed in the flare. Any excess reaction gas is also flared. The flaring is considered an integral part of the process due to the toxicity of CO and the explosion hazard it would represent, and was accounted for in the estimation of potential emissions. This results in an emission factor of 1.71 lbs of CO/hr for a 1.0 MMBtu/hr atmosphere generator as demonstrated below:

$$\left( \frac{6.000 \text{ cf}}{\text{hr}} \right) \times (20\% \text{ CO}) \times \left( \frac{1 \text{ lb - mole CO}}{390 \text{ cf @ STP}} \right) \times \left( \frac{28 \text{ lb CO}}{1 \text{ lb - mole CO}} \right) = \left( \frac{86.2 \text{ lb CO}}{\text{hr}} \right)$$
$$\left( \frac{86.2 \text{ lb CO}}{\text{hr}} \text{ generated} \right) (99\% \text{ vented}) (1 - 98\% \text{ flared}) = \left( \frac{1.71 \text{ lb CO}}{\text{hr}} \text{ emitted} \right)$$

A summary of potential emissions from the seven (7) atmosphere generators is shown in the following table.

### Summary of Potential Emissions from the seven (7) Atmosphere Generators

#### Process Fuel Usage

Fuel Type	Max Heat Input (MMBtu/hr)		Fuel usage (hr/yr)	
	Per Unit	Total	Average	Maximum
Natural Gas	1.0	7.00	8,400	8,760

#### Emissions Calculations

Pollutant	Maximum Rate (MMBtu)	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Maximum Uncontrolled Emissions per Unit (TPY)	Maximum Uncontrolled Emissions Total (TPY)	Control Efficiency (%)	Maximum Controlled Emissions per Unit (TPY)	Maximum Controlled Emissions Total (TPY)
NOx - Combust	1.00	0.1	0.10	0.44	3.07	0	0.44	3.07
NOx - Rxn	N/AP			0	0	0	0	0.00
NOx Total			0.10	0.44	3.07	0	0.44	3.07
CO-Combust	1.00	0.084	0.08	0.37	2.58	0	0.37	2.58
CO - Rxn	N/AP		1.71	7.49	52.43	0	7.49	52.43
CO Total			1.79	7.86	55.00	0	7.86	55.00
VOC-Combust	1.00	0.0055	0.01	0.02	0.17	0	0.02	0.17
VOC - Rxn	N/AP			0	0	0	0	0.00
VOC Total			0.01	0.02	0.17	0	0.02	0.17
PM-Combust	1.00	0.0076	0.01	0.03	0.23	0	0.03	0.23
PM - Rxn	N/AP			0	0	0	0	0.00
PM Total			0.01	0.03	0.23	0	0.03	0.23
SO <sub>2</sub> -Combust	1.00	0.0006	0.0006	0.003	0.018	0	0.003	0.018
SO <sub>2</sub> - Rxn	N/AP			0	0	0	0	0.00
SO <sub>2</sub> Total			0.0006	0.003	0.018	0	0.003	0.018

There are two components to atmosphere generators: Natural gas combustion from burner units to heat catalyst, and atmosphere/reaction gas generation (CO/N<sub>2</sub>/H<sub>2</sub>). Each component has separate emission factors

Emissions from the reaction gas are determined based on 1% of the CO generated is consumed in the furnace and 98% is combusted in the flare. This applies to both actual and potential emissions.